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| 10/608,064 | 06/30/2003 | Akira Jinzaki | 826.1878 | 7805 |

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STAAS & HALSEY LLP
SUITE 700
1201 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005

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| EXAMINER |
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HOANG, HIEU T

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| ART UNIT | PAPER NUMBER |
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2152

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
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| 3 MONTHS | 04/19/2007 | PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/608,064

Applicant(s)

JINZAKI, AKIRA

Examiner

Hieu T. Hoang

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date See Continuation Sheet.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :06/21/2006, 08/12/2005, 03/26/2007.

DETAILED ACTION

1. This office action is in response to communication filed on 06/30/2003.
2. Claims 1-21 are pending in the application.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 14 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Paragraph 3 on page 8 in the specification talks about a receiver receives no substantial data to be finally provided from the sender. Claim 14 recites: "the data received from the sender includes no substantial data to be finally provided for a receiver." There is no definition of "substantial data," thus the term can have multiple meanings. One understands that "no substantial data" can be none or a small portion of the data received from the sender, or some data that has been changed to be different from original data. Therefore, none of the data or a small portion of the data is to be provided to the receiver. For examining purpose, "no substantial data" is interpreted as scrambled data.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 12, 13, and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims recite the limitation "the scrambled information received from the sender." There is insufficient antecedent basis for this limitation in the claim. There was no scrambling step implemented before and how the step was done. For examining purpose, "the scrambled information received from the sender" will be interpreted as "scrambled information received from the sender."

Appropriate correction is required.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1, 18, 19, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al. (US 2002/0194367, hereafter Nakamura), in view of what is well known in the art (hereafter ON)

9. For claim 1, Nakamura discloses a broadcast type communication data distribution device distributing data in a network, comprising:

- a broadcast type communication data recognition unit analyzing whether data received from a sender through the network in the form of unicast communication is broadcast type communication data (fig. 16, unicast broadcast data is routed to a multicast substitute device, non-broadcast data is routed to a network terminating device, [0074] lines 10-14, a user broadcasts data using unicast connections to a plurality of host devices); and
- a ~~copy~~/transfer unit relaying data to an addressed receiver, transferring the data to one or more receivers other than the addressed receiver or another distribution device through the network, if the data is broadcast type communication data (fig. 16, data is then sent to a plurality of receivers through connections 24, 25, and 26. Data is relayed to a plurality of receivers using multicast)

Nakamura does not explicitly disclose copying the data.

However, Official Notice (ON) is taken that it is well known in the art that the process of converting from unicast to multicast of Nakamura inherently includes copying or duplicating data before relaying the data to the receivers.

Therefore, it would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Nakamura with what is well known in the art to copy and then relay unicast data to multiple users in the invention of Nakamura.

10. For claim 18, Nakamura discloses a broadcast type communication system conducting broadcast type communications, comprising:

- a transmitter device transmitting broadcast type communication data to a receiver through a network in the form of uni-cast communication (fig. 16, content server broadcasts data using unicast); and
- a distribution device provided between a sender and a plurality of receivers, that relays data received from a sender through a network to an addressed receiver and also copies/transfers the data to one or more receivers other than the address receiver, if the data is broadcast type communication data (fig. 16, [0074] lines 10-14, unicast broadcast data is routed through a multicast substitute device, non-broadcast data is routed to a network terminating device. Data is then sent to a plurality of receivers through connections 24, 25, and 26. Data is relayed to a plurality of receivers using multicast).

Nakamura does not explicitly disclose copying the data.

However, Official Notice (ON) is taken that it is well known in the art that the process of converting from unicast to multicast of Nakamura inherently includes copying or duplicating data before relaying the data to the receivers.

Therefore, it would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Nakamura with what is well known in the art to copy and then relay unicast data to multiple users in the invention of Nakamura.

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11. For claim 19, Nakamura-ON further discloses said transmitter device comprises a source address storage unit storing a network address corresponding to each of a plurality of segments of broadcast type communication data, and when transmitting one of the plurality of segments of broadcast type communication data, said transmitter device uses a network address corresponding to the data to be transmitted as a source address (Nakamura, fig. 16, content server broadcasts data using unicast connections, it is inherent that data packets sent from the source or content server contains a source address of the content server).

12. For claim 21, Nakamura discloses a broadcast type communication data distribution device distributing data in a network, comprising:

- broadcast type communication data recognition means for analyzing whether data received from a sender through the network in the form of uni-cast communication is broadcast type communication data (fig. 16, unicast broadcast data is routed to a multicast substitute device, non-broadcast data is routed to a network terminating device, [0074] lines 10-14, a user broadcasts data using unicast connections to a plurality of host devices); and
- copy/transfer means for relaying data to an addressed receiver, transferring the data to one or more receivers other than the addressed receiver or another distribution device through the network, if the data is broadcast type communication data (fig. 16, data is then sent to a plurality of receivers through

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connections 24, 25, and 26. Data is relayed to a plurality of receivers using multicast).

Nakamura does not explicitly disclose copying the data.

However, Official Notice (ON) is taken that it is well known in the art that the process of converting from unicast to multicast of Nakamura inherently includes copying or duplicating data before relaying the data to the receivers.

Therefore, it would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Nakamura with what is well known in the art to copy and then relay unicast data to multiple users in the invention of Nakamura.

13. Claims 2, 3, 15-17, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura-ON, as applied to claim 1, in view of Zheng et al. (US 2002/0181400, hereafter Zheng).

14. For claim 2, Nakamura-ON discloses the invention substantially as in claim 1. Nakamura-ON further discloses said broadcast type communication data recognition unit recognizes that the data is broadcast type communication data (Nakamura, [0076], [0078]). Nakamura does not disclose analyzing a source address in the received data to recognize that multiple data packets are of the same flow (or of broadcast type).

However, Zheng discloses analyzing a source address in the received data (abstract, a flow is uniquely identified by the flow's identity number in combination with

its source address, therefore by inspection of a flow ID, one can know whether two or more packets are of a same flow or not).

Therefore, it would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Nakamura-ON and Zheng in order to identify a broadcast type multicast transmission using the source address, or the flow identifier included in the data packets and therefore implement an advantageous relay method as described by Nakamura (Nakamura, fig. 16, substituting unicast broadcast data with multicast data)

15. For claim 3, the claim is rejected for the same rationale as in claim 2.

16. For claim 15, Nakamura-ON-Zheng discloses the invention substantially as in claim 2. Nakamura-ON-Zheng further discloses said broadcast type communication data recognition unit analyzes a source address, which is a private address of a MAC address in an Ethernet, and recognizes data in a layer 2 network (Nakamura, fig. 4, layer 2 MAC address, MAC is a standard OSI layer 2 or data-link layer).

17. For claim 16, Nakamura-ON-Zheng discloses the invention substantially as in claim 2. Nakamura-ON-Zheng further discloses said broadcast type communication data recognition unit analyzes a source address, which is an Internet protocol address, and recognizes data in a layer 3 network (Nakamura, fig. 3, layer 3 IP address, IP is an OSI layer 3 or network layer).

18. For claim 17, Nakamura-ON-Zheng discloses the invention substantially as in claim 2. Nakamura-ON-Zheng further discloses said broadcast type communication data recognition unit analyzes a source address, which is a port number of a user data protocol or a transmission control protocol, and recognizes data in a layer 4 network (TCP is a standard OSI layer 4 or transport layer).

19. For claim 20, Nakamura-ON discloses the invention substantially as in claim 19. Nakamura-ON further discloses a network address corresponds to control information about the relay and copy/transfer of the broadcast type communication data in said distribution device (Nakamura, [0078] lines 4-15, destination address is added to a list of receivers' addresses for the multicast session).

Nakamura does not disclose the control information is in a source address.

However, Zheng discloses the control information is in a source address (abstract, a flow is uniquely identified by the flow's identity number in combination with its source address, therefore by inspection of a flow ID, one can know whether two or more packets are of a same flow or not).

Therefore, it would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Nakamura-ON and Zheng in order to identify a broadcast type multicast transmission using the source address, or the flow identifier included in the data packets and therefore implement an advantageous relay method as

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described by Nakamura (Nakamura, fig. 16, substituting unicast broadcast data with multicast data)

20. Claims 4, 5, 6, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura-ON-Zheng, as applied to claim 3, in view of Wingard et al. (US 5,948,089, hereafter Wingard).

21. For claim 4, Nakamura-ON-Zheng discloses the invention substantially as in claim 3. Nakamura-ON-Zheng further discloses a broadcast type communication control table storage unit storing an address of each receiver for which the data should be copied and transferred (Nakamura, [0076], destination addresses of all receivers are stored in a table), in relation to the identifier of the broadcast type communication data.

Nakamura-ON-Zheng does not disclose each data transfer available/unavailable flag addressed to the receiver.

However, Wingard discloses each data transfer available/unavailable flag addressed to the receiver (fig. 6, col. 15 lines 1-16, flag 7 indicates whether data is available).

Therefore, it would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Nakamura-ON-Zheng and Wingard in order to use a flag to provide a precise indication once a module has obtained desired data instead of estimating when the desired data is available, which can increase latency (Wingard, col. 14 lines 51-58)

22. For claim 5, Nakamura-ON-Zheng-Wingard discloses the invention substantially as in claim 4. Nakamura-ON-Zheng-Wingard further discloses said broadcast type communication data recognition unit further extracts control information about the relay and copy/transfer of the received data based on the analysis of the source address (Zheng, fig. 1, source address, flow label, flow label can be used to identify identical flow in a multicast broadcast session).

23. For claim 6, Nakamura-ON-Zheng-Wingard discloses the invention substantially as in claim 5. Nakamura-ON-Zheng-Wingard further discloses when said broadcast type communication data recognition unit extracts information indicating the addition of a receiver, which is control information, said broadcast communication control table storage unit adds the destination address of the data as a receiver address in relation to the identifier of the received data (Nakamura, [0078] lines 4-15, destination address is added to a list of receivers' addresses for the multicast session).

24. For claim 11, Nakamura-ON-Zheng-Wingard discloses the invention substantially as in claim 5. Nakamura-ON-Zheng-Wingard further discloses said copy/transfer unit relays or copies/transfers all segments of data received from the sender, including the control information extracted by the broadcast type communication data recognition unit (Nakamura, [0076]).

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25. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura-ON-Zheng-Wingard, as applied to claim 5, in view of Williams (US 7,080,135).

26. For claim 7, Nakamura-ON-Zheng-Wingard discloses the invention substantially as in claim 5. Nakamura-ON-Zheng-Wingard does not disclose when said broadcast type communication data recognition unit extracts information indicating the deletion of a receiver, which is control information, said broadcast communication control table storage unit deletes an entry having the destination address of the data as a receiver address, in relation to the identifier of the received data.

However, Williams discloses the same (fig. 7, a register receives a delete entry command, then looks up the entry and deletes the corresponding entry from the address table).

Therefore, it would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Nakamura-ON-Zheng-Wingard with the teachings of Williams in order to delete address entries from the address table to minimize congestion and increase operating performance of the network (Williams, col. 9 lines 22-25)

27. For claim 8, the claim is rejected for the same rationale as in claim 7.

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28. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura-ON-Zheng-Wingard, as applied to claim 5, in view of Tzeng et al. (US 2003/0212814, hereafter Tzeng).

29. For claim 9, Nakamura-ON-Zheng-Wingard discloses the invention substantially as in claim 5. Nakamura-ON-Zheng-Wingard further discloses when said broadcast type communication data recognition unit extracts a control information, said broadcast communication control table storage unit sets the data transfer available/unavailable flag of a receiver address that matches the destination address of the received data, to "transfer unavailable" (Wingard, fig. 5, item 540).

However, Tzeng discloses that the information is indicating the stoppage of data distribution to a receiver ([0032], a pause frame pauses unicast transmission)

Therefore, it would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Nakamura-ON-Zheng-Wingard and Tzeng in order to stop, resume unicast transmission on the transmission side to avoid congestion in the network (Tzeng, [0005])

30. For claim 10, Nakamura-ON-Zheng-Wingard discloses the invention substantially as in claim 5. Nakamura-ON-Zheng-Wingard further discloses when said broadcast type communication data recognition unit extracts a control information, said broadcast communication control table storage unit sets the data transfer available/unavailable

flag of a receiver address that matches the destination address of the received data, to "transfer available" (Wingard, fig. 5, item 540).

However, Tzeng discloses that the information is indicating the re-start of data distribution to a receiver ([0030], an unpaue frame resumes the unicast transmission)

Therefore, it would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Nakamura-ON-Zheng-Wingard and Tzeng in order to stop, resume unicast transmission on the transmission side to avoid congestion in the network (Tzeng, [0005])

31. Claims 12, 13, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura-ON-Zheng-Wingard, as applied to claim 5, in view of what is well-known in the art.

32. For claim 12 and 13, Nakamura-ON-Zheng-Wingard discloses the invention substantially as in claim 5. The claims are rejected for the same rationale as in claim 11.

Official notice is taken that scrambling information is a well-known technique in the art of Network Security (see e.g. US 2002/0138721, abstract).

Therefore, it would have been obvious for one skilled in the art at the time of the invention to scramble information before sending it out to a destination, the scrambled information can then be unscrambled to be used at the destination in order to provide extra security for network transactions.

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33. For claim 14, Nakamura-ON-Zheng-Wingard further discloses the data received from the sender includes no substantial data to be finally provided for a receiver (same rationale as in claim 12 and 13, because the data has been scrambled, there is no substantial data to be finally provided for a receiver)

Conclusion

34. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Bageja. US 7,082,142. Deliver content in a unicast/multicast manner.
- She et al. US 7,133,922. Streaming of data.
- Cerf et al. US 6,418,138. Internet radio communication system.

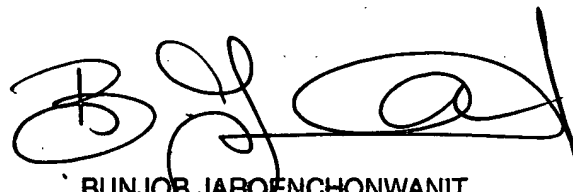
35. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hieu T. Hoang whose telephone number is 571-270-1253. The examiner can normally be reached on Monday-Thursday, 8 a.m.-5 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on 571-272-3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HH



BUNJOB JAROENCHONWANIT
SUPERVISORY PATENT EXAMINER